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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,969	07/25/2003	Kenneth E. Flick	58177	3941

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EXAMINER	
SWARTHOUT, BRENT	
ART UNIT	PAPER NUMBER
2612	

NOTIFICATION DATE	DELIVERY MODE
10/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/626,969	FLICK, KENNETH E.	
	Examiner	Art Unit	
	Brent A. Swarthout	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41,42,46,47 and 51-54* is/are rejected.

7)☒ Claim(s) *43-45,48-50* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 41,42,46,47,51,52,53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nykerk in view of Applicant's Admitted Prior Art, Voss or Leen, and further in view of Hwang (407), Hwang (697 and Issa et al.

Nykerk discloses an alarm system that issues a preliminary warning before sounding an alarm based on a low threat level condition (Nykerk, col. 1, 11. 19-29; col. 2, 1.64 - col. 3, 1.2). To this end, a self-contained alarm system 55 (i.e., the "INVISIBEAM" system) detects the presence of an intruder in a zone of protection. In response to such detection, a preliminary warning vocally informs the user that a protected region has been entered (i.e., a pre-warning signal). The intruder is then given a predetermined time to move out of the protected area before sounding the alarm, which is based on the high threat level condition of an intruder being present for more than a set period of time (i.e., alarm signal) (Nykerk, col. 3, 11.49-67; col. 6, 1.48 - col. 7, 1. 10). Also, the INVISBEAM system can be used with other conventional alarm systems (Nykerk, col. 7, 11.32-63).

The alarm system 55 is connected to a control unit which is, in turn, connected to a wire harness 30 (Nykerk, Fig. 1; col. 8, 11. 14-17; col. 9, 11. 59-63). The alarm system 55 is also connected to the wire harness via interface/driver 88 (Nykerk, col. 11, 11.53-62; Fig. 4). Significantly, the wire harness 30 extends substantially the entire length of the vehicle with various components (e.g., headlights, taillights, horn, sensors, etc.) connected thereto as shown in Figure 1 (Nykerk, Fig. 1; col. 7, 1. 64 - col. 8, 1.23).

The claims differ from Nykerk in calling for a data communications bus to extend throughout the vehicle, and to have sensors with different sensitivity, and to have a prewarn alert shorter than a high level alert, and to use prewarn alerts of less intensity than high level alerts. But replacing wiring harnesses in vehicles with data

communication buses to, among other things, reduce weight, cost, and complexity, is well-known in the vehicle manufacturing industry.
For example, Appellant indicates in the Specification that vehicle manufacturers have attempted to reduce the amount of wiring within vehicles to reduce weight, wiring problems, decrease costs, and reduce
complications which may arise during troubleshooting. To this end, manufacturers have adopted multiplexing schemes to reduce cables to three or four wires and simplify the exchange of data among various onboard electronic systems.

Voss also documents similar efforts. See, e.g., Voss, at 1 (noting that in-vehicle data bus (IVDB) technology met design goal of 20% wiring harness reduction); that "Multiplex technology should decrease the number of connections and reduce wire harness variants."; and that "Wiring harness reduction and simplification of sub-system installation are main targets of multiplex and data bus technology.".

In fact, since the early 1980s, centralized and distributed networks have replaced point-to-point wiring. See Leen, at 88; see also ("[I]n a 1998 press release, Motorola reported that replacing wiring harnesses with LANs in the four doors of a BMW reduced the weight by 15 kilograms while enhancing functionality."). Moreover, Leen notes that one of the first and most enduring automotive control networks, the "controller area network" (CAN), was developed in the mid-1980s.

In view of the clear trend in the industry for replacing wiring harnesses with data communications buses in vehicles as evidenced above, it would have been obvious to the skilled artisan at the time of the invention to replace the wiring harness 30 in Nykerk that extends throughout the vehicle with a data communications bus carrying data and address information thereover to, among other things, reduce weight, cost, and complexity by
precluding the need for dedicated, point-to-point wiring for communicating with the various vehicle electrical components.
In this regard, one having ordinary skill, facing the wide range of needs created by developments in the vehicular manufacturing industry (e.g., the increased demand for electronic devices in vehicles while at the same time reducing cost and complexity), would have seen a benefit to upgrading the wire harness 30 with a data communications bus. Moreover, the effects of demands known to the design community (i.e., reducing vehicle weight while accommodating increased demand for on-board electronic devices), along with the prior art teachings noted above and the background knowledge of the skilled artisan (an electrical engineer with

several years of related industry experience), would have reasonably motivated the skilled artisan to utilize a data communications bus as a suitable replacement for a wire harness.

Furthermore, Hwang (407) teaches desirability of having a vehicle alarm system give a pre-warning based on low threat level condition of only a single sensed signal (col. 1, line 67) and alarm warning signals based on a high threat level condition of sensing plural activation signals within a set time period (col. 2, lines 5-10), whereby the pre-warning occurs when only a single sensed signal is detected, and an alarm occurs when multiple signals are sensed or signal is sensed for a preset period. Thus, the pre-alarm signal sensor is more sensitive than the alarm signal sensor since it only takes a single signal to activate the pre-alarm warning.

It would have been obvious to use a bus throughout a vehicle alarm system as discussed above in conjunction with a vehicle alarm system including a pre-alarm system whereby sensors had different sensitivities as suggested by Hwang, in order to allow spurious alarms to only temporarily sound avoiding nuisance alarms, or to allow attention to be drawn to a vehicle before a vehicle was stolen, while still taking advantage of the desirable characteristics of a bus connection system, such as more compact connections and lower weight.

Hwang (697) discloses desirability of making a prewarn alert shorter than a high level alert (col.2, lines 29-38).

It would have been obvious to use a short prewarn alert as suggested by Hwang (697) in conjunction with a system as disclosed by Nykerk, Admitted prior art, Voss or Leen and Hwang (407) , in order to notify parties that a vehicle was alarmed while still minimizing nuisance alerts of long duration.

Issa teaches desirability of using prewarn alerts of lesser intensity than alarms for high levels of concern (col.3, lines 19-35,65-67), and for using a two-zone shock

sensor, one zone for light touches and a second zone for heavy impacts (col.3, lines 20-25, 65-67).

It would have been obvious to use a lower volume alert for less hazardous conditions, and a two-zone shock sensor as suggested by Issa in conjunction with a system as disclosed by Nykerk, Admitted Prior Art, Voss or Leen and Hwang (407) in order to let a bystander know how serious an alert condition was, and in order to differentiate between minor bumps and serious shocks indicative of intrusion attempts.

2. Claims 41,42,46,47,51,52,53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boreham in view of Nykerk, and further in view of Hwang (407), Hwang (697) and Issa et al.

Boreham discloses a siren unit 2 with a CPU 4 that provides signals that activate an audible siren responsive to trigger signals received on control input 10 via serial interface 12. The control input 10 is connected to a vehicle security control unit that is able to (1) monitor the vehicle, (2) determine when an alarm condition occurs, and (3) issue the appropriate trigger signal (Boreham, col. 2, 11.41-53; Fig. 1).

Depending on the siren unit's configuration, the siren unit is triggered in either of two ways: (1) the contents of a control data packet received by the serial interface 12, or (2) a trigger signal on the control input 10 (Boreham, col. 4, 11.28-31). If serial interface control is enabled, the CPU must regularly receive (e.g., every second) a 24-bit control packet 54 from the vehicle security control unit to prevent the siren from being activated (Boreham, col. 4, 1.55 - col. 5, 1. 12).
The details of this 24-bit control packet are provided in the table in column 5 and Figure 6. Significantly, a four-bit address field is provided (Bits 0-3) which enables the vehicle security control unit to address devices other than the siren unit 2 on a single serial data bus (Boreham, col. 5, 11. 15- 60; col. 6, 11.20-23; Fig. 6).

Although the exact extent of this serial data bus is unclear from the reference, Boreham nevertheless provides some indication of the ability of the vehicle security control unit to communicate with vehicle devices other than the siren unit. The vehicle security control unit can generate a warning signal by causing an LED on the instrument panel to flash (Boreham, col. 7, 11. 14-23). Moreover, in an alternative embodiment shown in Figure 8, the vehicle security control unit can monitor the state of the ignition line 28 and
report its status to the siren unit's CPU via the control packet (Boreham, col. 7, 11.52-56; Fig. 8).

Boreham does not expressly state that the vehicle security control unit communicates with the vehicle's instrument panel and ignition line via the serial data bus. Nevertheless, the collective teachings of Boreham strongly suggest that this is the case given the stated ability to address multiple devices using the bus, or, at the very least, a viable alternative to point-to- point wiring.
In any event, the fact that four data bits are provided in the control packet for addressing various vehicle devices suggests that 16 different devices can be addressed. The skilled artisan would have reasonably inferred that addressing 16 different devices on a vehicle on a single serial bus would reasonably involve extending the bus throughout the vehicle to facilitate such communication. Even assuming that these 16 devices could be within the same general vicinity in the vehicle, the clear import of Boreham is that such devices could likewise be installed at various locations throughout the vehicle, particularly in view of Boreham's specific references to communicating with the instrument panel and the ignition line.

In short, nothing precludes extending the serial data bus throughout the vehicle to facilitate data communication with various vehicle devices using the bus.

In any event, Nykerk teaches extending a wire harness 30 substantially the entire length of the vehicle with various components (e.g., headlights, taillights, horn, sensors, etc.) connected thereto as shown in Figure 1 (Nykerk, Fig. 1; col. 7, 1.64 - col. 8, 1. 23). In view of this,

since there are four bits in the Address Field, 24 (or 16) unique addresses can be accommodated in this field. In view of this

teaching, the skilled artisan would have ample reason to extend the data bus in Boreham to facilitate communication with electrical devices located at the front and rear of the vehicle.

The claims also differ from Boreham in calling for a pre-warning signal whereby the pre-alarm and alarm sensors have different sensitivities, and whereby prewarn alerts are shorter or less intense. But Nykerk discloses an alarm system that issues a preliminary warning before sounding an alarm (Nykerk, col. 1, 11. 19-29; col. 2, 1.64 - col. 3, 1.2). To this end, a self-contained alarm system 55 (i.e., the "INVISIBEAM" system) detects the presence of an intruder in a zone of protection. In response to such detection, a preliminary warning vocally informs the user that a protected region has been entered (i.e., a pre-warning signal). The intruder is then given a predetermined time to move out of the protected area before sounding the alarm (i.e., alarm signal) (Nykerk, col. 3, 11.49-67; col. 6, 1.48 - col. 7, 1. 10). Also, the INVISBEAM system can be used with other conventional alarm systems (Nykerk, col. 7, 11. 32-63).

Furthermore, Hwang (407) teaches desirability of having a vehicle alarm system give a pre-warning based on low level threat condition and alarm warning signals based on high threat level condition, whereby the pre-warning occurs when only a single sensed signal is detected, and an alarm occurs when multiple signals are

sensed or signal is sensed for a preset period. Thus, the pre-alarm signal sensor is more sensitive than the alarm signal sensor since it only takes a single signal to activate the pre-alarm warning.

It would have been obvious to use a bus throughout a vehicle alarm system as discussed above in conjunction with a vehicle alarm system including a pre-alarm system whereby sensors had different sensitivities as suggested by Hwang, in order to allow spurious alarms to only temporarily sound avoiding nuisance alarms, or to allow attention to be drawn to a vehicle before a vehicle was stolen, while still taking advantage of the desirable characteristics of a bus connection system, such as more compact connections and lower weight.

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It would have been obvious to use a short prewarn alert as suggested by Hwang (697) in conjunction with a system as disclosed by Boreham, Nykerk and Hwang (407) , in order to notify parties that a vehicle was alarmed while still minimizing nuisance alerts of long duration.

Issa teaches desirability of using prewarn alerts of lesser intensity than alarms for high levels of concern (col.3, lines 19-35,65-67), and for using a two-zone shock sensor, one zone for light touches and a second zone for heavy impacts (col.3, lines 20-25, 65-67).

It would have been obvious to use a lower volume alert for less hazardous conditions, and a two-zone shock sensor as suggested by Issa in conjunction with a system as disclosed by Boreham, Nykerk and Hwang (407) in order to let a bystander know how serious an alert condition was, and in order to differentiate between minor bumps and serious shocks indicative of intrusion attempts.

3. Claims 43-45 and 48-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Regarding remarks on page 8 of the response filed 9-18-08, Issa discloses desirability of using a two zone shock sensor, and Hwang and Nykerk teach desirability of generating prewarnings and warnings based on low threat level and high threat level signals respectively.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A. Swarthout whose telephone number is 571-272-2979. The examiner can normally be reached on M-Th from 6:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Brent A Swarthout/
Primary Examiner, Art Unit 2612

Brent A Swarthout
Primary Examiner
Art Unit 2612